What is Claimed is:

1. A method for producing microfilaments, comprising:

extruding a plurality of multicomponent fibers having at least one polymer component comprising an elastomeric polymer and at least one polymer component comprising a non-elastomeric polymer, wherein said elastomeric polymer has a solubility parameter (δ) sufficiently different from said non-elastomeric polymer so that said elastomeric component and said non-elastomeric component split upon thermal treatment;

drawing said multicomponent fibers to plastically deform said non-elastomeric component and to attenuate said elastomeric component such that said elastomeric component is capable of elastically contracting upon release of adhesion to the non-elastomeric component; and

thermally treating said drawn multicomponent fibers under conditions of low or substantially no tension to separate said multicomponent fibers to form a fiber bundle comprising a plurality of elastomeric microfilaments and a plurality of non-elastomeric microfilaments which are more bulked than said elastomeric microfilaments.

2. The method of Claim 1, wherein said thermally treating step comprises thermally treating said fibers at a temperature of at least about 35°C.

3. The method of Claim 2, wherein said thermally treating step comprises contacting said fibers with a heated gaseous medium.

4. The method of Claim 3, wherein said heated gaseous medium comprises heated air substantially free of water.

5. The method of Claim 1, wherein said method further comprises texturizing said fibers by directing said fibers through a texturing jet.

6. The method of Claim 5, wherein said texturizing step comprises contacting said fibers with a heated jet air stream in said texturizing jet, and wherein said thermally treating step and said texturizing step occur simultaneously.

7. The method of Claim 5, wherein said thermally treating step occurs before said texturizing step.

8. The method of Claim 1, wherein said elastomeric microfilaments are substantially non-bulked.

9. The method of Claim 1, wherein said non-elastomeric microfilaments substantially surround said elastomeric microfilaments and wherein each of said non-elastomeric microfilaments has a random series of substantially non-linear configurations.

10. The method of Claim 1, wherein said elastomeric polymer is selected from the group consisting of polyurethane elastomers, ethylene-polybutylene copolymers, poly(ethylene-butylene)polystyrene block copolymers, polyadipate esters, polyester elastomeric polymers, polyamide elastomeric polymers, polyetherester elastomeric polymers, ABA triblock or radial block copolymers, and mixtures thereof.

11. The method of Claim 10, wherein said elastomeric polymer is polyurethane.

12. The method of Claim 1, wherein said non-elastomeric polymer is selected from the group consisting of polyolefins, polyesters, polyamides, and copolymers and mixtures thereof.

13. The method of Claim 12, wherein said non-elastomeric polymer is a polyolefin.

14. The method of Claim 13, wherein said polyolefin is polypropylene.

15. The method of Claim 1, wherein said thermal treating step comprises applying microwave energy to said multicomponent fibers.

16. The method of Claim 1, further comprising:

applying and releasing tension on said drawn multicomponent fibers after the thermally treating step to further separate said multicomponent fibers.

17. The method of Claim 16, wherein tension on said drawn multicomponent fibers is applied and released repeatedly.

18. The method of Claim 1, further comprising twisting the drawn multicomponent

fibers into a yarn.

19. A method for producing microfilaments, comprising:

extruding a plurality of multicomponent fibers comprising at least one elastomeric polyurethane component and at least one non-elastomeric polypropylene component;

drawing said multicomponent fibers to plastically deform said non-elastomeric polypropylene component and to attenuate said elastomeric polyurethane component such that said elastomeric polyurethane is capable of elastically contracting upon release of adhesion to the non-elastomeric component; and

contacting said drawn multicomponent fibers with heated air under conditions of low or substantially no tension to separate said multicomponent fibers to form a fiber bundle comprising a plurality of elastomeric polyurethane microfilaments and non-elastomeric polypropylene microfilaments, wherein said polypropylene microfilaments are more bulked than said polyurethane microfilaments, and wherein said polypropylene microfilaments substantially surround said polyurethane microfilaments.

20. A method for producing microfilaments, comprising:

extruding a plurality of multicomponent fibers having at least one polymer component comprising an elastomeric polymer and at least one polymer component comprising a non-elastomeric polymer, wherein said elastomeric polymer has a solubility parameter (δ) sufficiently different from said non-elastomeric polymer so that said elastomeric component and said non-elastomeric component split upon thermal treatment;

drawing said multicomponent fibers to plastically deform said non-elastomeric component and to attenuate said elastomeric component such that said elastomeric component is capable of elastically contracting upon release of adhesion to the non-elastomeric component; and

contacting said multicomponent fibers with a heated substantially water free medium under conditions of low or substantially no tension to separate said multicomponent fibers to form a fiber bundle comprising a plurality of elastomeric microfilaments and a plurality of non-elastomeric microfilaments.

21. A fiber bundle comprising a plurality of elastomeric microfilaments and a plurality of plastically deformed non-elastomeric microfilaments which are more bulked than

said elastomeric microfilaments, said microfilaments originating from a common multicomponent fiber having elastomeric polymer and non-elastomeric polymer components, wherein said elastomeric polymer has a solubility parameter (δ) sufficiently different from said non-elastomeric polymer so that said elastomeric component and said non-elastomeric component split upon thermal activation.

22. The fiber bundle of Claim 21, wherein said elastomeric polymer and said non-elastomeric polymer have a difference in solubility parameters (δ) of at least about 1.2 $(J/cm^3)^{½}$.

23. The fiber bundle of Claim 22, wherein said elastomeric polymer and said non-elastomeric polymer have a difference in solubility parameters (δ) of at least about 2.9 $(J/cm^3)^{½}$.

24. The fiber bundle of Claim 21, wherein each of said non-elastomeric microfilaments has a random series of substantially non-linear configurations.

25. The fiber bundle of Claim 21, wherein said elastomeric microfilaments are substantially non-bulked.

26. The fiber bundle of Claim 21, wherein said non-elastomeric microfilaments substantially surround said elastomeric microfilaments.

27. The fiber bundle of Claim 21, wherein said microfilaments have an average size ranging from about 0.05 to about 1.5 denier.

28. The fiber bundle of Claim 21, wherein said fiber bundle comprises about 8 to about 48 microfilaments.

29. The fiber bundle of Claim 21, wherein said fiber bundle is in the form of staple fiber.

30. A yarn comprising the fiber bundle of Claim 21.

31. The yarn of Claim 30, wherein said non-elastomeric microfilaments and said elastomeric microfilaments are different colors, and wherein said yarn has a first color in its

unstretched condition and a different color in its stretched condition.

32. A fiber bundle comprising a plurality of elastomeric polyurethane microfilaments and a plurality of plastically deformed non-elastomeric polypropylene microfilaments which are more bulked than said elastomeric microfilaments substantially surrounding said elastomeric polyurethane microfilaments, said microfilaments originating from a common multicomponent fiber having elastomeric polyurethane and non-elastomeric polypropylene components which split upon thermal activation.

33. A yarn comprising the fiber bundle of Claim 32.

34. A stretchable yarn comprising a plurality of elastomeric core filaments and a plurality of plastically deformed non-elastomeric filaments which are more bulked than said elastomeric filaments, said non-elastomeric filaments substantially surrounding said elastomeric core filaments, wherein said elastomeric core filaments and said non-elastomeric filaments have a difference in solubility parameters (δ) of at least about 1.2 $(J/cm^3)^{1/2}$.

35. The yarn of Claim 34, wherein said elastomeric core filaments and said non-elastomeric filaments have a difference in solubility parameters (δ) of at least about 2.9 $(J/cm^3)^{1/2}$.

36. The yarn of Claim 34, wherein each of said non-elastomeric filaments has a random series of substantially non-linear configurations.

37. The yarn of Claim 34, wherein said elastomeric core filaments are substantially non-bulked.

38. The yarn of Claim 34, wherein said elastomeric core filaments and said non-elastomeric filaments have an average size ranging from about 0.05 to about 1.5 denier.

39. The yarn of Claim 34, wherein said yarn comprises about 8 to about 48 filaments.

40. The yarn of Claim 34, wherein said elastomeric core filaments comprise a polymer selected from the group consisting of polyurethane elastomers, ethylene-polybutylene

copolymers, poly(ethylene-butylene)polystyrene block copolymers, polyadipate esters, polyester elastomeric polymers, polyamide elastomeric polymers, polyetherester elastomeric polymers, ABA triblock or radial block copolymers, and mixtures thereof.

41. The yarn of Claim 40, wherein said elastomeric core filaments are polyurethane.

42. The yarn of Claim 34, wherein said non-elastomeric filaments comprise a polymer selected from the group consisting of polyolefins, polyesters, polyamides, and copolymers and mixtures thereof.

43. The yarn of Claim 42, wherein said non-elastomeric filaments are a polyolefin.

44. The yarn of Claim 43, wherein said polyolefin is polypropylene.

45. The yarn of Claim 34, wherein the yarn is a twisted yarn.

46. The yarn of Claim 34, wherein the yarn is one of an unoriented yarn, and partially oriented yarn and a fully oriented yarn.

47. The yarn of Claim 34, wherein said elastomeric core filaments and said non-elastomeric filaments originate from common multicomponent fibers having elastomeric and non-elastomeric components.

48. The yarn of Claim 34, wherein said yarn is a stretchable multifilament dental floss yarn.

49. A method of forming a stretchable yarn, comprising:

extruding a plurality of multicomponent fibers having at least one polymer component comprising an elastomeric polymer and at least one polymer component comprising a non-elastomeric polymer, wherein said elastomeric polymer has a solubility parameter (δ) sufficiently different from said non-elastomeric polymer so that said elastomeric component and said non-elastomeric component split upon thermal treatment;

drawing said multicomponent fibers to plastically deform said non-elastomeric

component and to attenuate said elastomeric component such that said elastomeric component is capable of elastically contracting upon release of adhesion to the non-elastomeric component; and

thermally treating said drawn multicomponent fibers under conditions of low or substantially no tension to separate said multicomponent fibers to form a stretchable yarn comprising a plurality of elastomeric core filaments substantially surrounded by a plurality of non-elastomeric filaments which are more bulked than said elastomeric core filaments.

50. The method of Claim 49, wherein said thermally treating step comprises thermally treating said fibers at a temperature of at least about 35°C.

51. The method of Claim 49, wherein said thermally treating step comprises contacting said fibers with a heated gaseous medium.

52. The method of Claim 51, wherein said heated gaseous medium comprises heated air substantially free of water.

53. The method of Claim 49, wherein said method further comprises texturizing said fibers by directing said fibers through a texturing jet.

54. The method of Claim 53, wherein said texturizing step comprises contacting said fibers with a heated jet air stream in said texturizing jet, and wherein said thermally treating step and said texturizing step occur simultaneously.

55. The method of Claim 53, wherein said thermally treating step occurs before said texturizing step.

56. The method of Claim 49, wherein said elastomeric polymer is selected from the group consisting of polyurethane elastomers, ethylene-polybutylene copolymers, poly(ethylene-butylene)polystyrene block copolymers, polyadipate esters, polyester elastomeric polymers, polyamide elastomeric polymers, polyetherester elastomeric polymers, ABA triblock or radial block copolymers, and mixtures thereof.

57. The method of Claim 56, wherein said elastomeric polymer is polyurethane.

58. The method of Claim 49, wherein said non-elastomeric polymer is selected from the group consisting of polyolefins, polyesters, polyamides, and copolymers and mixtures thereof.

59. The method of Claim 58, wherein said non-elastomeric polymer is a polyolefin.

60. The method of Claim 59, wherein said polyolefin is polypropylene.

61. The method of Claim 49, wherein said thermal treating step comprises applying microwave energy to said multicomponent fibers.

62. The method of Claim 49, further comprising:

applying and releasing tension on said drawn multicomponent fibers after the thermally treating step to further separate said multicomponent fibers.

63. The method of Claim 49, further comprising twisting the drawn multicomponent fibers to form a twisted yarn.

64. The method of Claim 49, further comprising twisting the elastomeric core filaments and non-elastomeric filaments to form a twisted yarn.

65. The method Claim 49, wherein the elastomeric and non-elastomeric polymer components are formed into one of an unoriented yarn, and partially oriented yarn and a fully oriented yarn.

66. The method of Claim 49, wherein the elastomeric and non-elastomeric polymer components are formed into a stretchable multifilament dental floss yarn.

67. A fabric comprising a plurality of elastomeric microfilaments and a plurality of plastically deformed non-elastomeric microfilaments which are more bulked than said elastomeric microfilaments, said microfilaments originating from a common multicomponent fiber having elastomeric polymer and non-elastomeric polymer components, wherein said

elastomeric polymer has a solubility parameter (δ) sufficiently different from said non-elastomeric polymer so that said elastomeric component and said non-elastomeric component split upon thermal activation.

68. The fabric of Claim 67, wherein said fabric is selected from the group consisting of nonwoven fabrics, woven fabrics, and knit fabrics.

69. A product comprising the fabric of Claim 67, selected from the group consisting of: synthetic suede, filtration media, and disposable absorbent articles.

70. The product of Claim 32, wherein said product is synthetic suede.

71. A method for producing fabric, said method comprising:

extruding a plurality of multicomponent fibers having at least one polymer component comprising an elastomeric polymer and at least one polymer component comprising a non-elastomeric polymer, wherein said elastomeric polymer has a solubility parameter (δ) sufficiently different from said non-elastomeric polymer so that said elastomeric component and said non-elastomeric component split upon thermal activation;

drawing said multicomponent fibers to plastically deform said non-elastomeric component and to attenuate said elastomeric component so that said elastomeric component is capable of elastically contracting upon release of adhesion to the non-elastomeric component;

forming a fabric from said multicomponent fibers; and

thermally treating said drawn multicomponent fibers under conditions of low or substantially no tension to separate said multicomponent fibers to form a fiber bundle comprising a plurality of elastomeric microfilaments and a plurality of non-elastomeric microfilaments which are more bulked than said elastomeric microfilaments.

72. The method of Claim 71, wherein said thermal treatment step comprises thermally treating said fibers at a temperature of at least about 35°C.

73. The method of Claim 71, wherein said thermal treatment step comprises contacting said fibers with a heated gaseous medium.

74. The method of Claim 73, wherein said heated gaseous medium comprises heated

air substantially free of water.

75. The method of Claim 71, wherein said elastomeric microfilaments are substantially non-bulked.

76. The method of Claim 71, wherein said non-elastomeric microfilaments substantially surround said elastomeric microfilaments.

77. The method of Claim 71, wherein the step of forming a fabric comprises forming a woven fabric, forming a knit fabric, or forming a nonwoven fabric.

78. The method of Claim 71, wherein the step of forming a fabric comprises the steps of forming a nonwoven web of said multicomponent fibers and bonding said web of multicomponent fibers to form a unitary nonwoven fabric.

79. The method of Claim 71, wherein said thermal treatment step occurs simultaneously with said fabric forming step.

80. The method of Claim 71, wherein said thermal treatment step occurs prior to said fabric forming step.

81. The method of Claim 80, wherein said method further comprises texturizing said fibers by directing said fibers through a texturing jet to form a yarn prior to said fabric formation step.

82. The method of Claim 81, wherein said texturizing step comprises contacting said fibers with a heated jet air stream in said texturizing jet, and wherein said thermal treatment step and said texturizing step occur simultaneously.

83. The method of Claim 81, wherein said thermal treatment step occurs before said texturizing step.

84. The method of Claim 71, wherein said thermal treatment step occurs after said fabric forming step.

85. The method of Claim 71, wherein said thermal treating step comprises applying

microwave energy to said multicomponent fibers.

86. The method of Claim 71, wherein said thermal treating step includes thermally treating selected portions of the fabric to impart to the selected portions of the fabric properties that are different from those of untreated portions of the fabric.

87. The method of Claim 86, wherein said thermally treating step causes the selected portions of the fabric to have greater elasticity than the untreated portions of the fabric.

88. The method of Claim 86, wherein said thermally treating step causes the selected portions of the fabric to have greater absorbency than the untreated portions of the fabric.

89. A splittable multicomponent fiber comprising:

at least one elastomeric component comprising an elastomeric polymer, which is attenuated such that said elastomeric component elastically contracts upon release of drawing tension; and

at least one non-elastomeric component comprising a non-elastomeric polymer, which is plastically deformed, wherein said elastomeric polymer has a solubility parameter (δ) sufficiently different from said non-elastomeric polymer so that said elastomeric component and said non-elastomeric component split upon thermal treatment.

90. The fiber of Claim 89, wherein said elastomeric polymer and said non-elastomeric polymer have a difference in solubility parameters (δ) of at least about 1.2 $(J/cm^3)^{1/2}$.

91. The fiber of Claim 90, wherein said elastomeric polymer and said non-elastomeric polymer have a difference in solubility parameters (δ) of at least about 2.9 $J/cm^3)^{1/2}$.

92. The fiber of Claim 89, wherein said elastomeric polymer is selected from the group consisting of polyurethane elastomers, ethylene-polybutylene copolymers, poly(ethylene-butylene)polystyrene block copolymers, polyadipate esters, polyester elastomeric polymers, polyamide elastomeric polymers, polyetherester elastomeric polymers, ABA triblock or radial block copolymers, and mixtures thereof.

SUB A_2 > 93. The fiber of Claim 93, wherein said elastomeric polymer is polyurethane.

94. The fiber of Claim 89, wherein said non-elastomeric polymer is selected from the group consisting of polyolefins, polyesters, polyamides, and copolymers and mixtures thereof.

95. The fiber of Claim 94, wherein said non-elastomeric polymer is a polyolefin.

96. The fiber of Claim 95, wherein said polyolefin is polypropylene.

97. The fiber of Claim 89, wherein said fiber is selected from the group consisting of pie/wedge fibers, segmented round fibers, segmented oval fibers, segmented rectangular fibers, segmented ribbon fibers, and segmented multilobal fibers.

98. The fiber of Claim 89, wherein the weight ratio of said elastomeric polymer component to said non-elastomeric polymer component ranges from about 80/20 to about 20/80.

99. The fiber of Claim 89, wherein said fiber is selected from the group consisting of continuous filaments and staple fibers.

100. A fabric comprising a plurality of splittable multicomponent fibers comprising at least one polymer component comprising a non-elastomeric polymer which is plastically deformed and at least one polymer component comprising an elastomeric polymer which is attenuated such that said elastomeric component is capable of elastically contracting upon release of adhesion to the non-elastomeric component;

wherein said elastomeric polymer has a solubility parameter (δ) sufficiently different from said non-elastomeric polymer so that said elastomeric component and said non-elastomeric component split upon thermal activation.

101. A method for producing splittable multicomponent fibers, said method comprising:

extruding a plurality of multicomponent fibers having at least one polymer component comprising an elastomeric polymer and at least one polymer component comprising a non-elastomeric polymer, wherein said elastomeric polymer has a solubility parameter (δ) sufficiently different from said non-elastomeric polymer so that said elastomeric component and said non-elastomeric component split upon thermal activation; and

drawing said multicomponent fibers to plastically deform said non-elastomeric

components and to attenuate said elastomeric components so that said elastomeric components are capable of elastically contracting upon release of adhesion to the non-elastomeric components.

102. A method for producing fabric, said method comprising:

extruding a plurality of multicomponent fibers having at least one polymer component comprising an elastomeric polymer and at least one polymer component comprising a non-elastomeric polymer, wherein said elastomeric polymer has a solubility parameter (δ) sufficiently different from said non-elastomeric polymer so that said elastomeric component and said non-elastomeric component split upon mechanical fabric formation;

drawing said multicomponent fibers to plastically deform said non-elastomeric component and to attenuate said elastomeric component so that said elastomeric component is capable of elastically contracting upon release of adhesion to the non-elastomeric component;

forming a web of said multicomponent fibers; and

mechanically treating said web under conditions sufficient to intimately entangle said multicomponent fibers and to separate said multicomponent fibers to form fiber bundles comprising a plurality of elastomeric microfilaments and a plurality of non-elastomeric microfilaments which are more bulked than said elastomeric microfilaments.

103. The method of Claim 102, wherein said mechanically treating step comprises hydroentangling or needlepunching said web.

104. A stretchable multifilament dental floss yarn, comprising:

a plurality of melt-spun elastomeric filaments; and

a plurality of bulked, melt-spun non-elastomeric filaments at least partially separated from said elastomeric filaments, said elastomeric filaments and said non-elastomeric filaments being twisted such that said non-elastomeric filaments wrap around said elastomeric filaments.